

FEFPA

Florida Educational Facilities Planners' Association

SUMMER 2023  
CONFERENCE

**FEFPA**

Florida Educational Facilities Planners' Association

WHAT DOES THE FUTURE LOOK LIKE FOR THE  
ARCHITECTURE PROFESSION  
AND  
COMMUNITIES WE SERVE

July 11, 2023

Lourdes Solera, FAIA – Principal, M.C.Harry & Associates

Stephen Panzarino, AIA – Regional Managing Principal, Director of Architecture, AECOM

Ignacio Reyes, FAIA – Chief Development Officer, Leo A Daly

# agenda

- welcome
- introductions
- background of strategic council- who we are and what is our mission
- issues studied

“Good architecture should be a projection of life itself that implies an intimate knowledge of biological, social, technical and artistic problems.”

Walter Gropius - *Scope of total architecture*

satisfy the human soul

## AIA FLORIDA STRATEGIC COUNCIL

- Established in 2016
- Led by Immediate Past President
- Subject matter experts (both AIA members and others)
- Study issues that will affect the profession in future
- Present recommendations to the AIA Florida Board



## 2016 - 2022 AIA Florida Strategic Council

- Forward looking and future-focused, exploring upcoming trends that may directly impact or influence the practice and profession of architecture.
- Identify new opportunities to inform and guide AIA Florida leadership and the profession in development of innovative strategies and knowledge capital for enhanced relevance.
- Short term (3-5 years) and long term (30 years) issues that will impact the profession and the communities we serve.
- Elevate the power of architecture's relevance in the community
- Share the findings with members and other related groups

## FINANCIAL FORECASTING (analyzed in 2019)

- Long Range Financial Outlook Report from AIA National in 2017
  - NY Times survey – half of respondents expected recession by end of 2019
  - And 82% of CFOs surveyed expected recession by end of 2020

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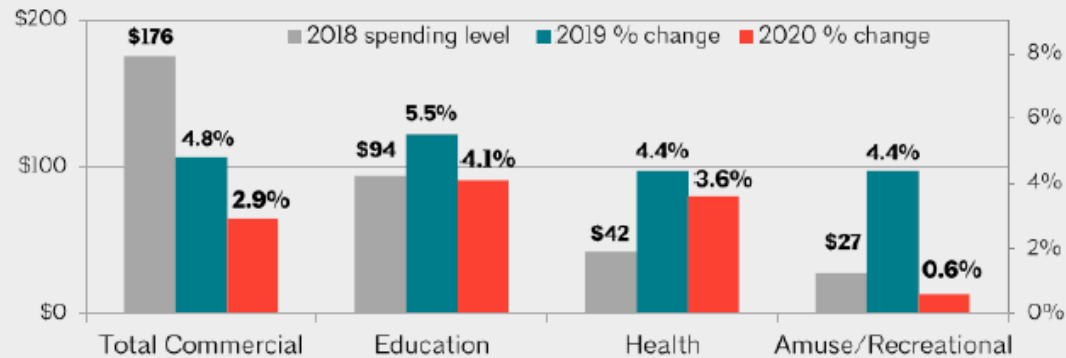
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- Report also stated that “Government shutdowns affect overall economic growth even if architectural work is not affected”
  - **2020-2021 Pandemic shutdowns had mixed results for architectural firms. Many reporting higher productivity and revenue than prior to the pandemic. But it was devastating for many if not most industries.**
  - **Can we prepare our communities for the next global event?**

# FINANCIAL FORECASTING (analyzed in 2019)

- In 2018, overall education construction was “on hold”

Outlook for institutional construction is for moderated growth this year and slower growth next

billions \$/percent change of construction spending on nonresidential buildings



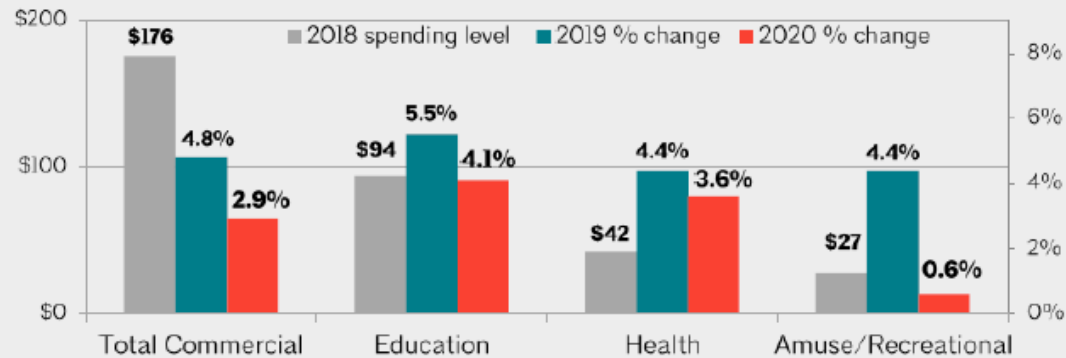
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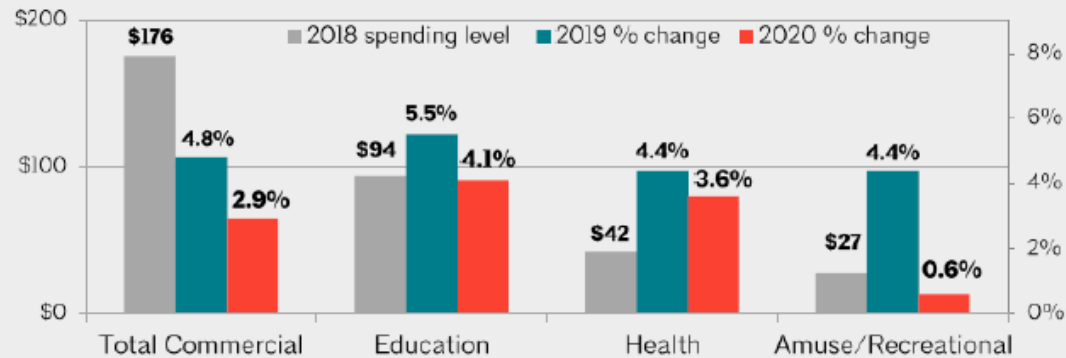
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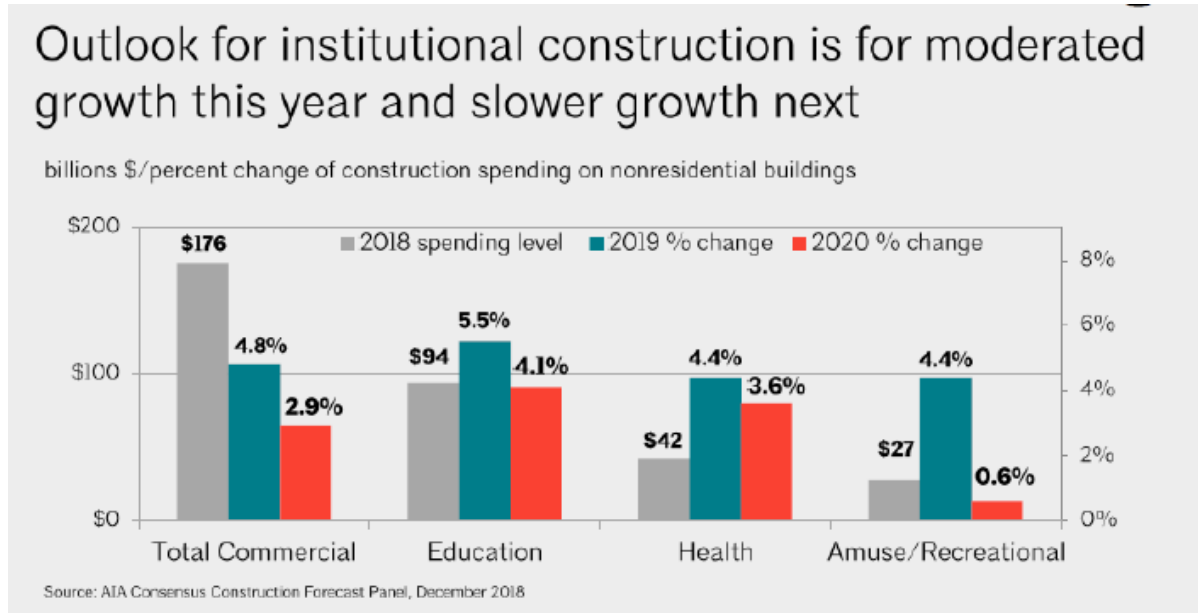
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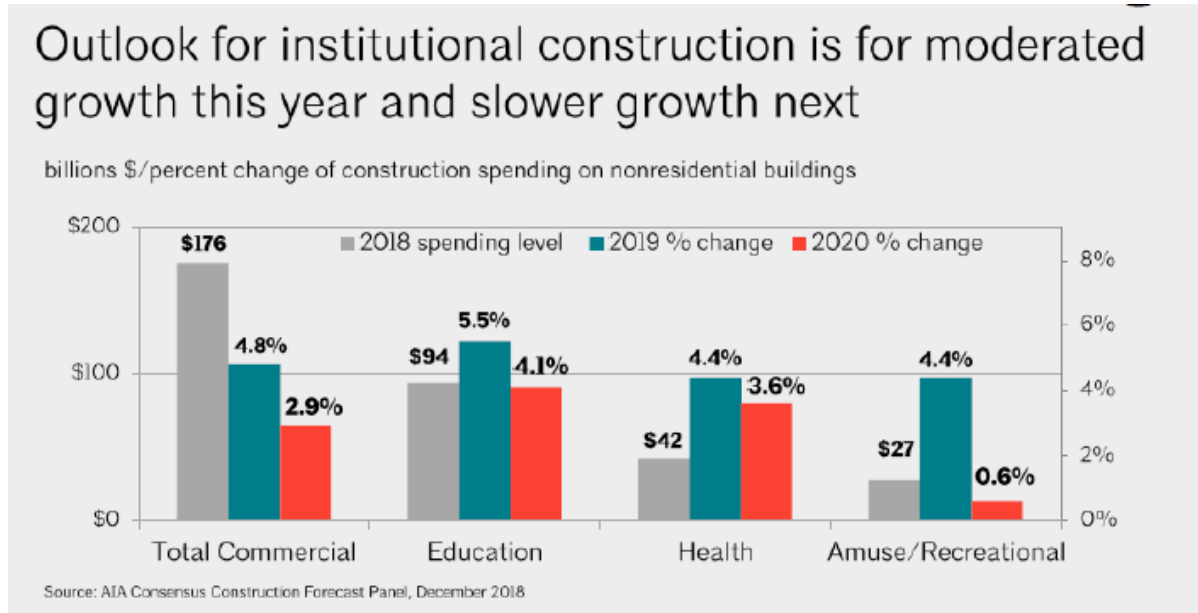
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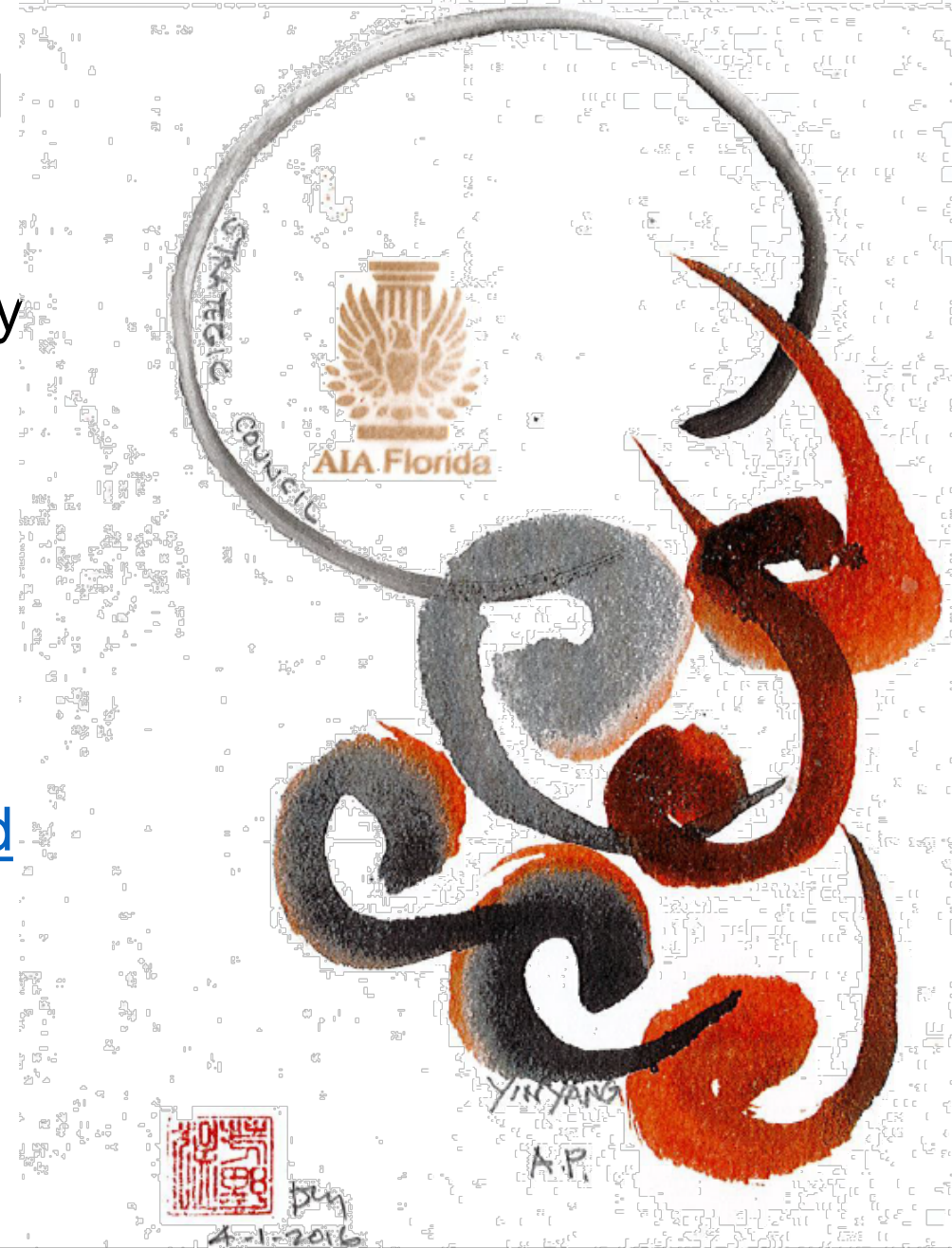
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- What does the school of 2050 look like?

# LIVABLE COMMUNITIES AND PUBLIC HEALTH

- Studied first in 2016, envisioned as a repository of information and resources
  - Connecting architects with available resources at the time, including Centers for Disease Control and Prevention and CDC Foundation / Robert Wood Johnson Foundation – 500 Cities Project.
    - <http://www.cdcfoundation.org/pr/2016/cdc-foundation-and-robert-wood-johnson-foundation-launch-500-cities-project>





# LIVABLE COMMUNITITES AND PUBLIC HEALTH

- Worldwide Pandemic not envisioned by council
  - How do we best create livable communities that can survive and thrive despite global issues
  - Nor how CDC data would be reviewed and used by many industries
- Lessons learned from pandemic should be re-analyzed with 30-year lens and how our communities and architecture profession will be impacted



## SEA LEVEL RISE- “Service through Policy Leadership”

- Facilitate education on the impact of sea level rise.
- 2016 Council recommended that the AIA Florida board adopt policy that architects encourage our clients to accommodate three feet of sea level rise for projects in low lying areas, even those further inland and up tidal rivers. Recognizing that sea level rise is happening even if we do not know or understand how much or how soon.
- Florida Schools of Architecture should embed sea level rise into their curriculum.



# SEA LEVEL RISE- “Service through Policy Leadership”

- Architects must insert themselves as design thinkers and lead interdisciplinary teams engaged in developing solutions for a more resilient and adaptive built environment across the state.



## STAFFING & LABOR (analyzed in 2019)

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- Prior to 2020, architecture firms were targeting gaming and tech savvy population while increasing investments in technology and innovation to attract a larger demographic.
  - In 2021 and 2022, AIA Strategic Council studied the impact of technology on the future of the profession. Staffing levels are still a challenge

# TRANSFORMATION

2021

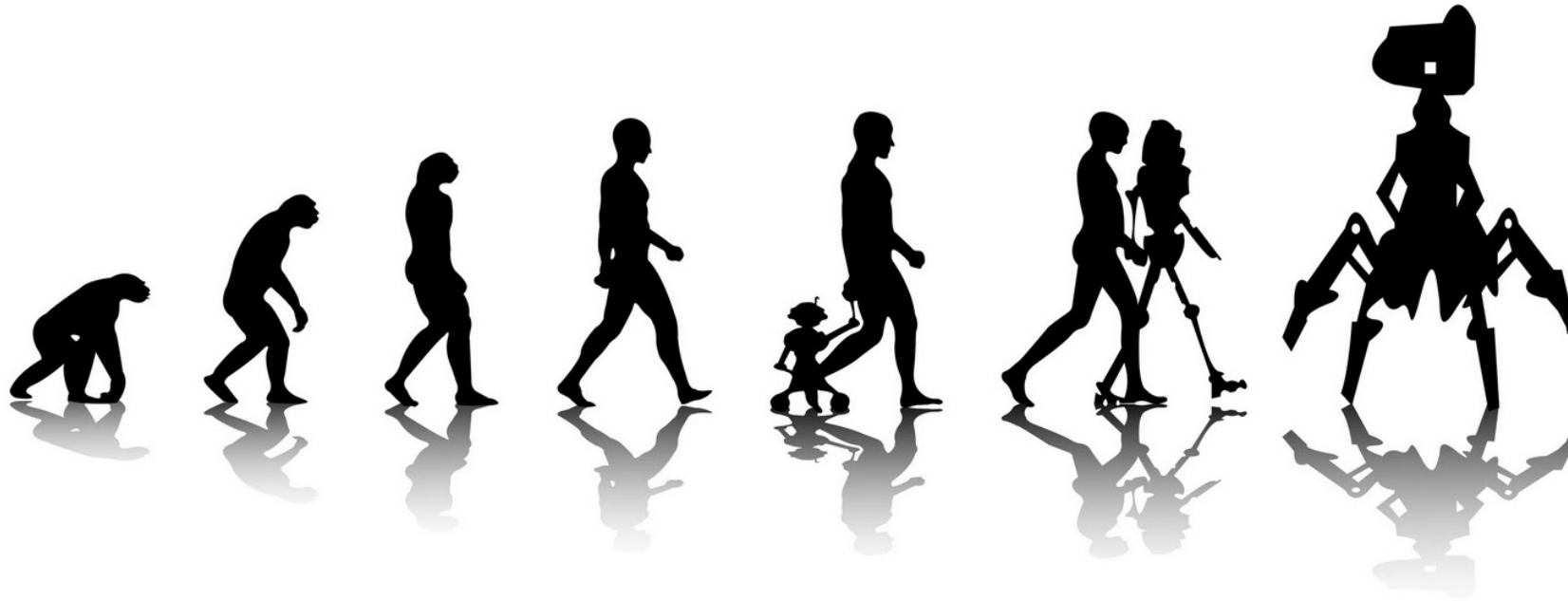


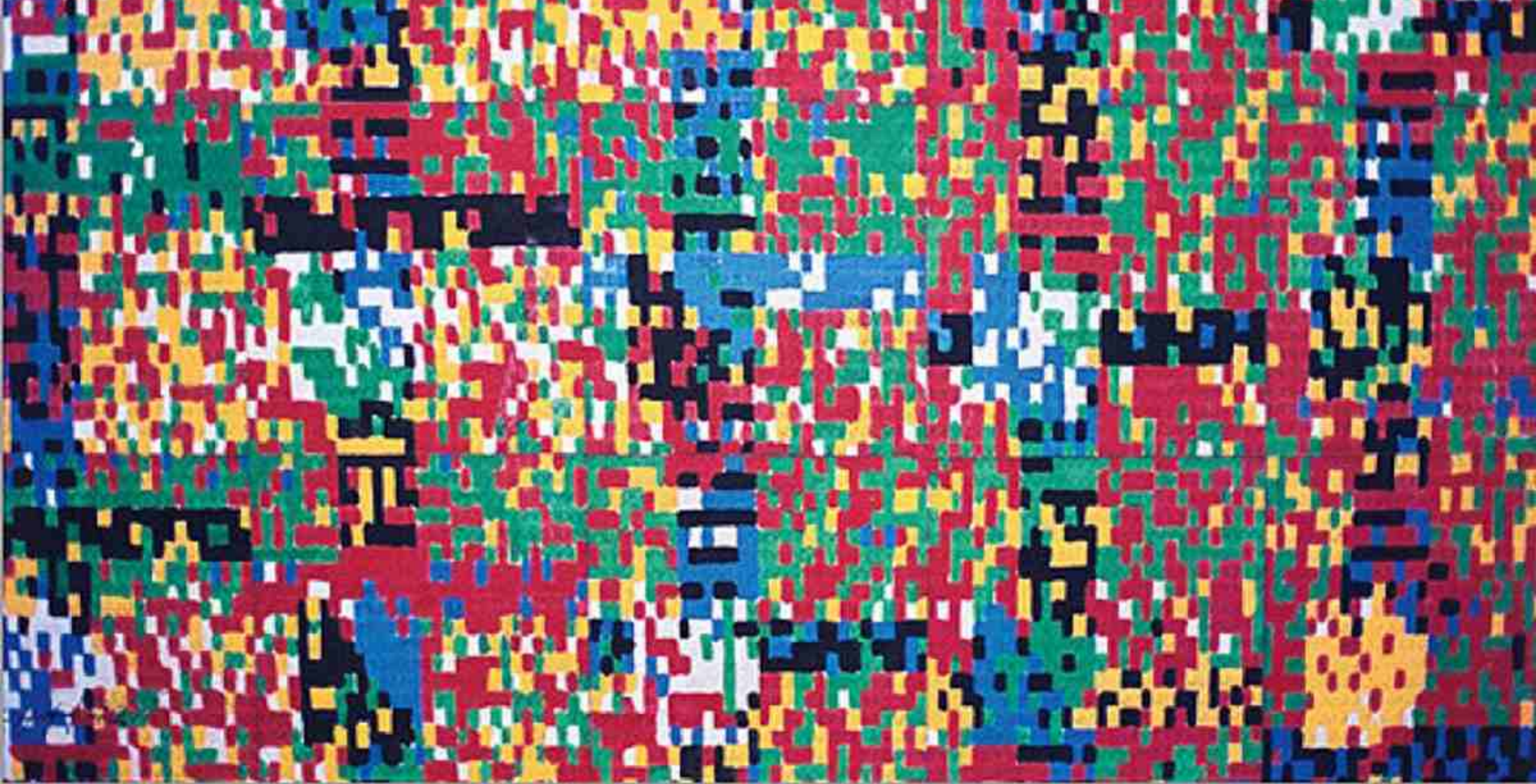


# trans·for·ma·tion

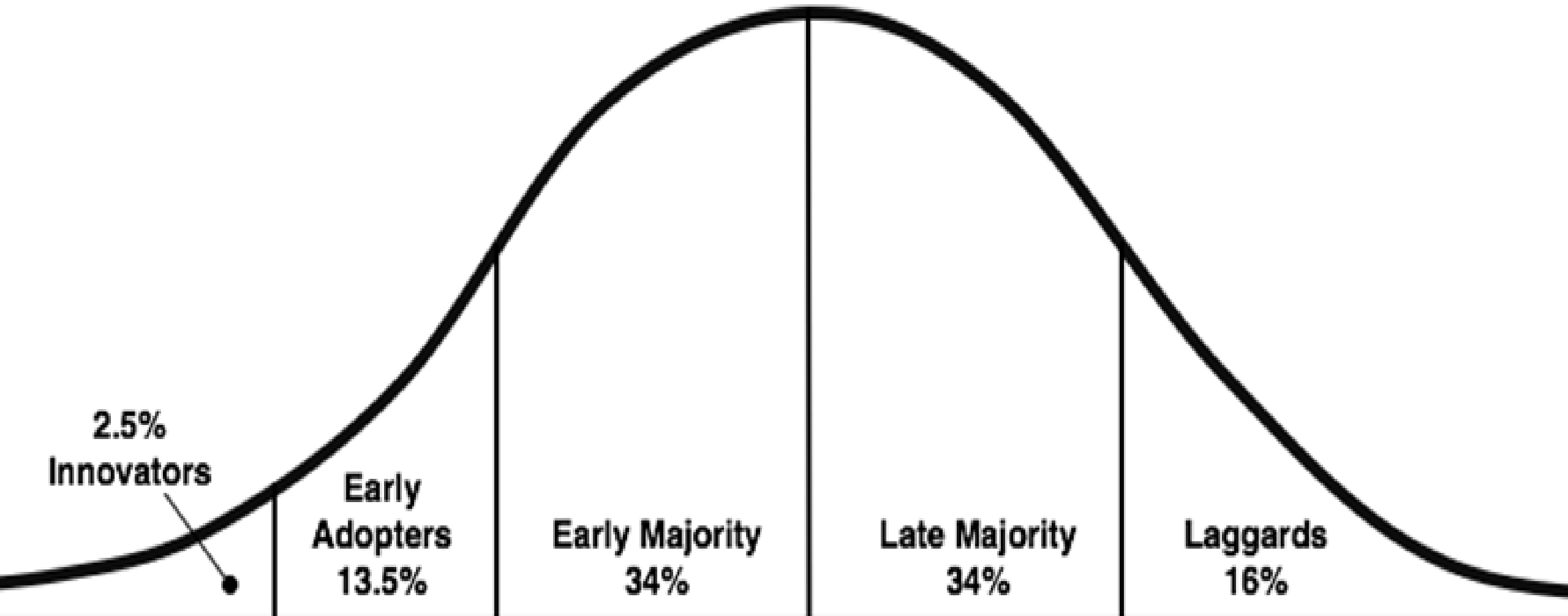
/ˌtrɑn(t)sfərˈmɑːʃ(ə)n/

: an act, process, or instance of transforming or being transformed

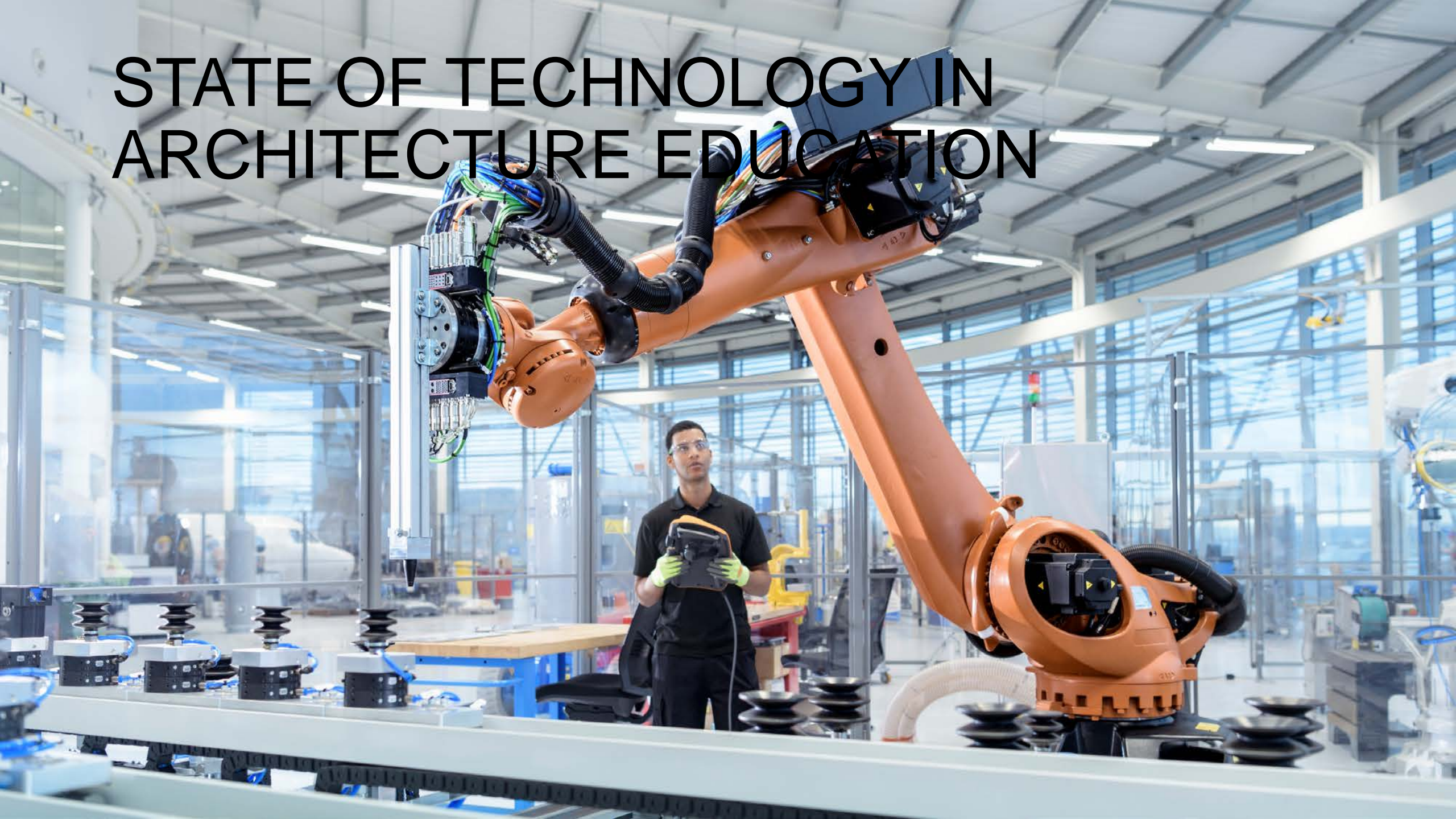




# STATE OF THE PROFESSION



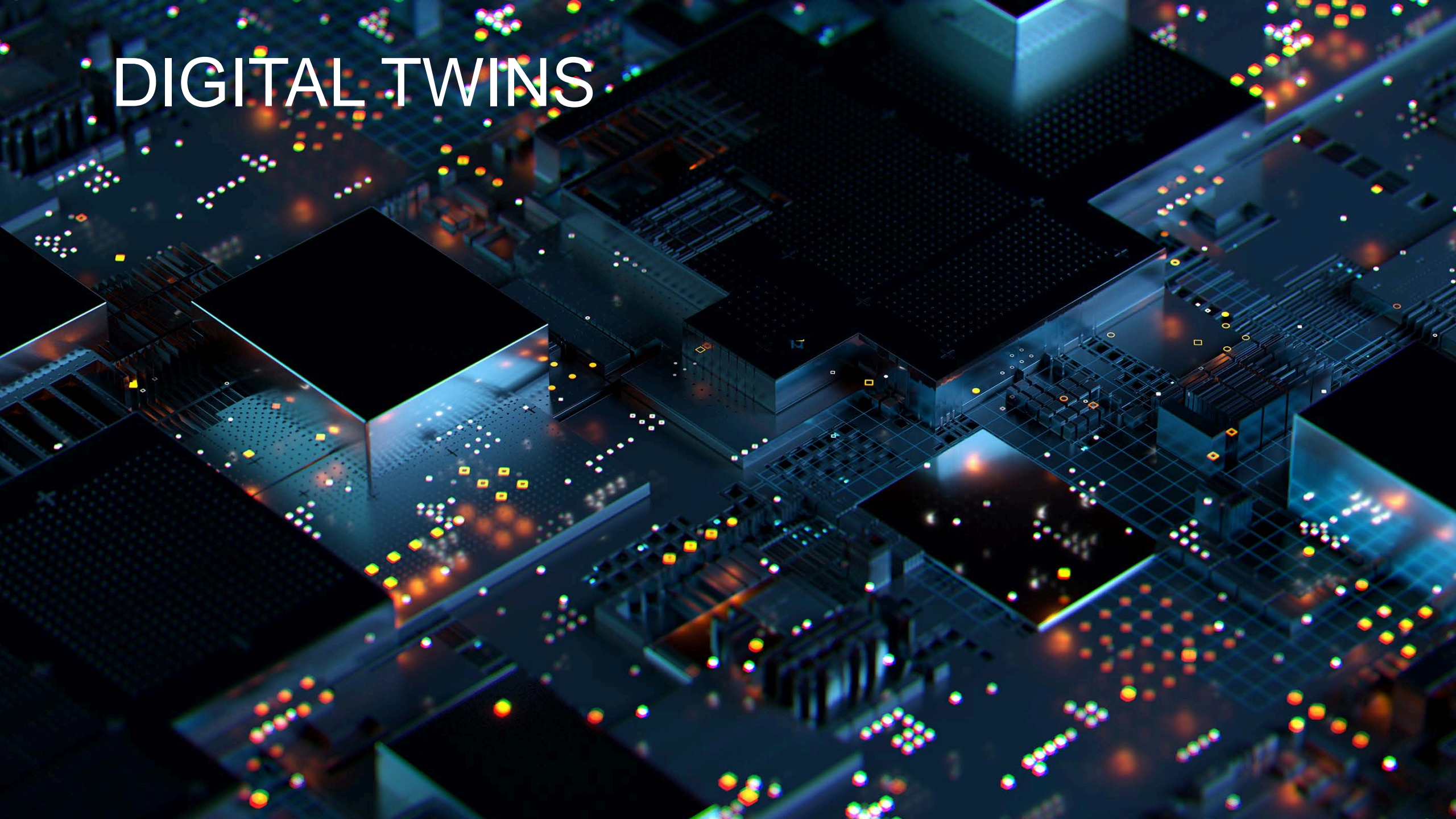
# STATE OF TECHNOLOGY IN ARCHITECTURE EDUCATION



# PROFESSIONAL EDUCATION



# DIGITAL TWINS





COBie



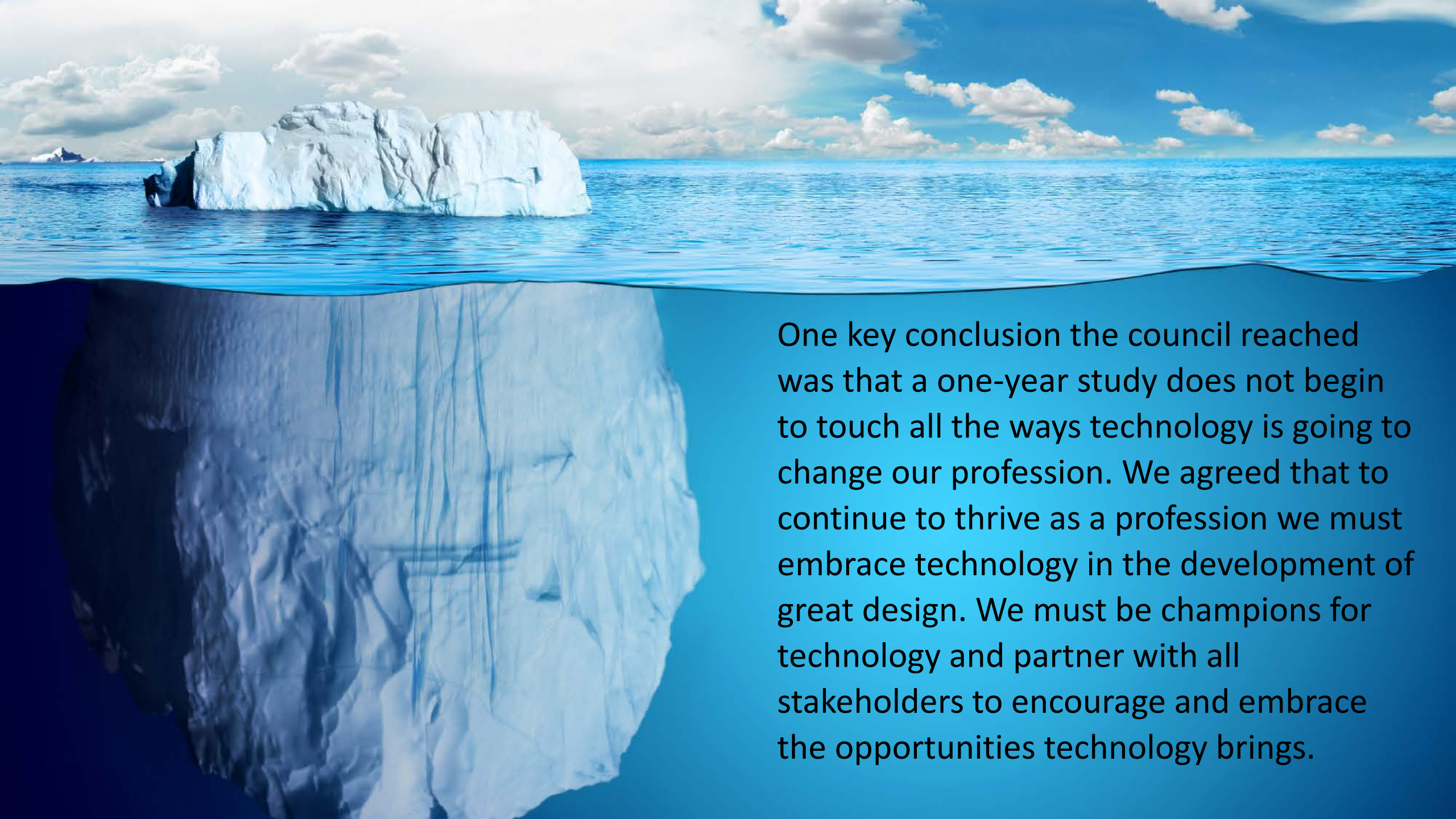
**BIG DATA**



# 2021

- ENABLE ARCHITECTS TO EMBRACE TECHNOLOGY AND LEARN HOW TO USE IT TO ENHANCE THEIR PRACTICES.
- PROMOTE HANDS-ON EXPERIENCE AND EXPOSURE TO TECHNOLOGIES FOR MEMBERS AT ALL CAREER STAGES THROUGH CONTINUING EDUCATION.
- CENTRALIZED DRIVER AND ORGANIZER FOR THE DISTRIBUTION OF TECHNOLOGY AND FACILITATE INTERDISCIPLINARY COLLABORATIONS.
- THE ARCHITECTURAL COMMUNITY SHOULD ENTER A CONVERSATION CENTERED ON OWNERSHIP OF DATA AND ITS USAGE TO INCREASE PRODUCTIVITY AND PROFITS.

The creative talent of an individual is here to stay, and computational design is a tool to be used to our advantage.



One key conclusion the council reached was that a one-year study does not begin to touch all the ways technology is going to change our profession. We agreed that to continue to thrive as a profession we must embrace technology in the development of great design. We must be champions for technology and partner with all stakeholders to encourage and embrace the opportunities technology brings.

A long, arched hallway with a brick wall on the right and a railing on the left. The hallway is illuminated by natural light from the left, creating a strong sense of perspective and depth. The arches are supported by a series of columns, and the floor is a dark, polished material. The overall atmosphere is clean, modern, and institutional.

# Challenges, Changes and Relevance

2022



**Planning for practice transformation in a time of great change, while maintaining relevance in shaping the built environment**

## Areas of Focus

Alternative  
Delivery



Artificial  
Intelligence



Long-Term  
Relevance



## Areas of Focus

### Alternative Delivery



### Artificial Intelligence



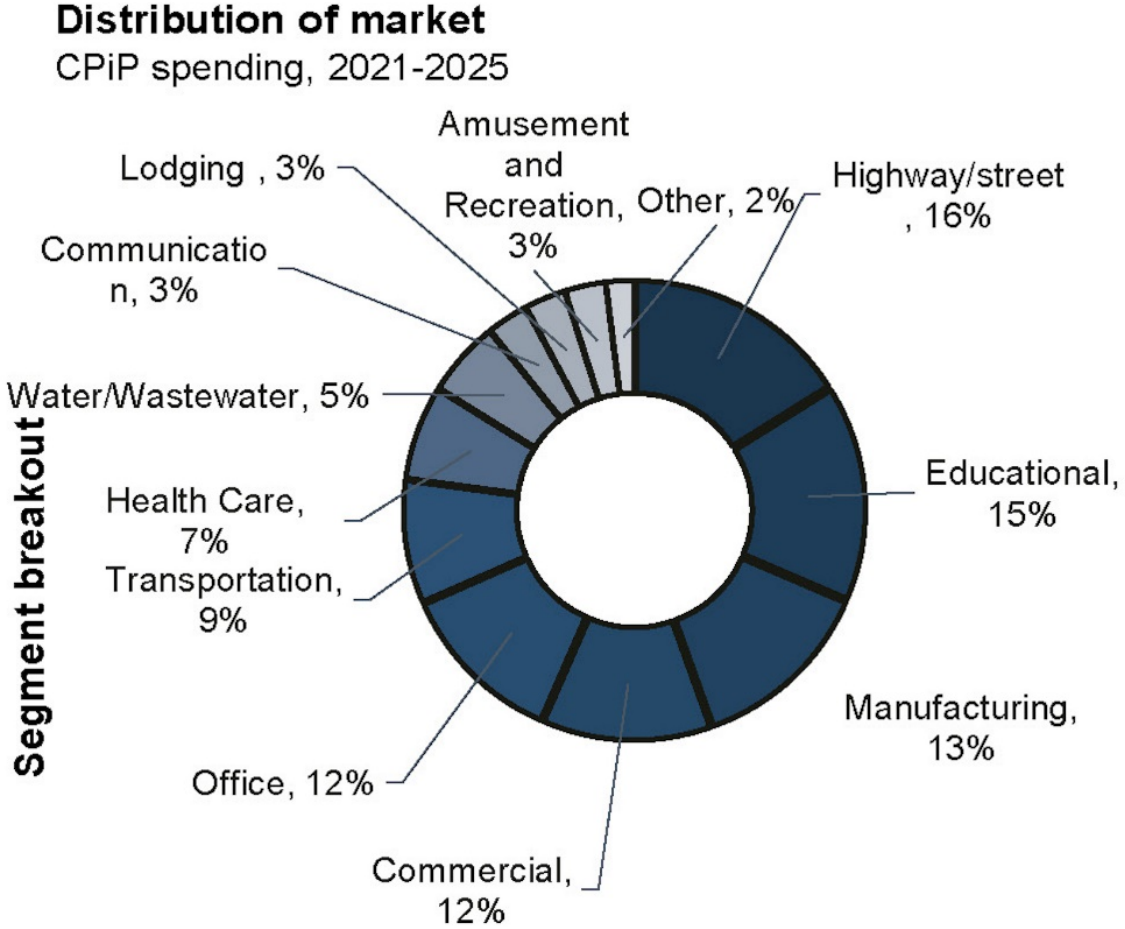
### Long-Term Relevance



# Alternative Delivery Model – Design Build

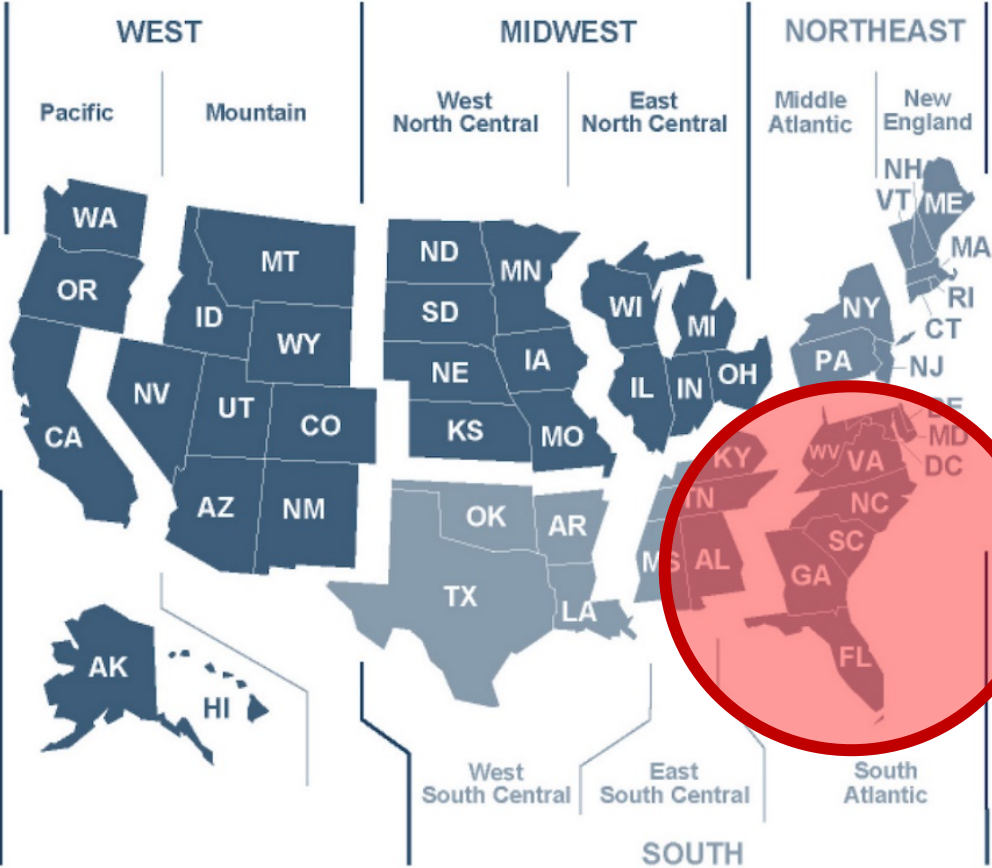
Design-Build expected to grow

- 7.6% growth rate from 2021 to 2025
- Highly prevalent in Federal procurement
- Perception of expedited schedules



Source FMI

# Alternative Delivery Model – Design Build



		<i>Billions of current dollars</i>		<b>CAGR (21-25)</b>
		<b>2021e</b>	<b>2025f</b>	
<b>WEST</b>	Mountain	\$24.3	\$31.9	7.1%
	Pacific	\$51.9	\$66.3	6.3%
<b>MIDWEST</b>	East North Central	\$35.7	\$45.0	6.0%
	West North Central	\$26.4	\$34.9	7.2%
<b>NORTHEAST</b>	New England	\$10.9	\$14.8	7.8%
	Middle Atlantic	\$34.1	\$46.7	8.2%
<b>SOUTH</b>	South Atlantic	\$53.5	\$74.4	8.6%
	East South Central	\$13.9	\$18.6	7.6%
	West South Central	\$52.2	\$73.1	8.8%
<b>U.S. Total</b>		<b>\$303.0</b>	<b>\$405.7</b>	<b>7.6%</b>



Source FMI

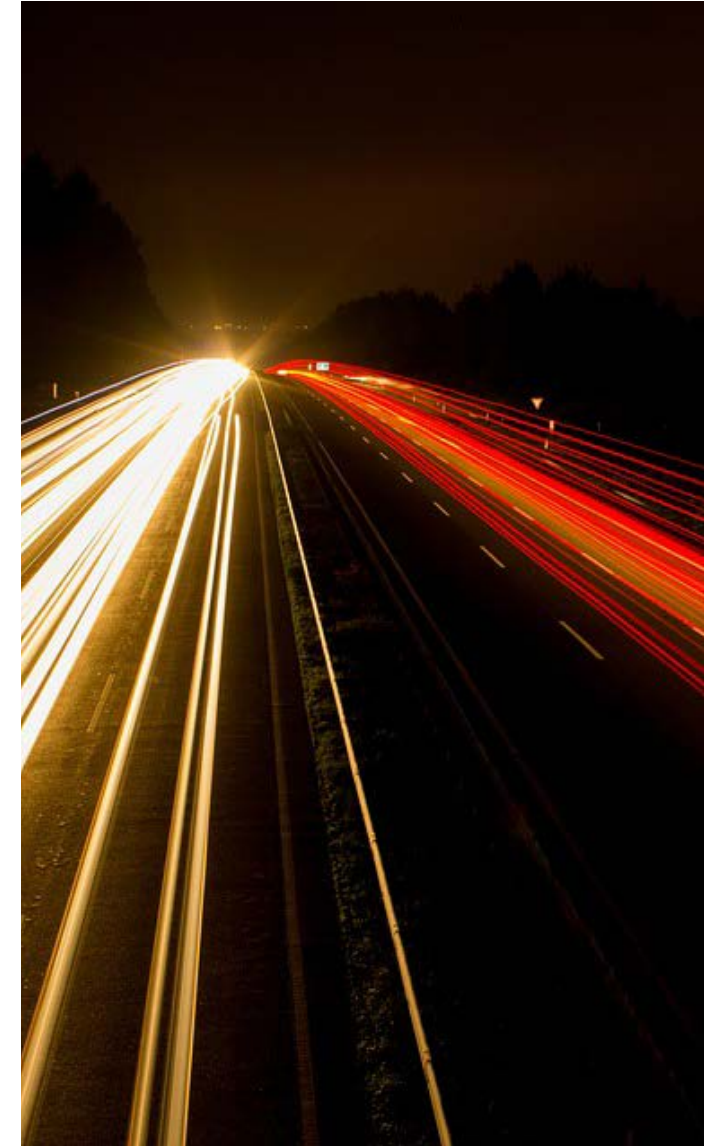


# Alternative Delivery Model – Design Build

Positive Perceptions:

- Speed
- Cost Control
- Efficiency

There are benefits as well as risks to the architect.



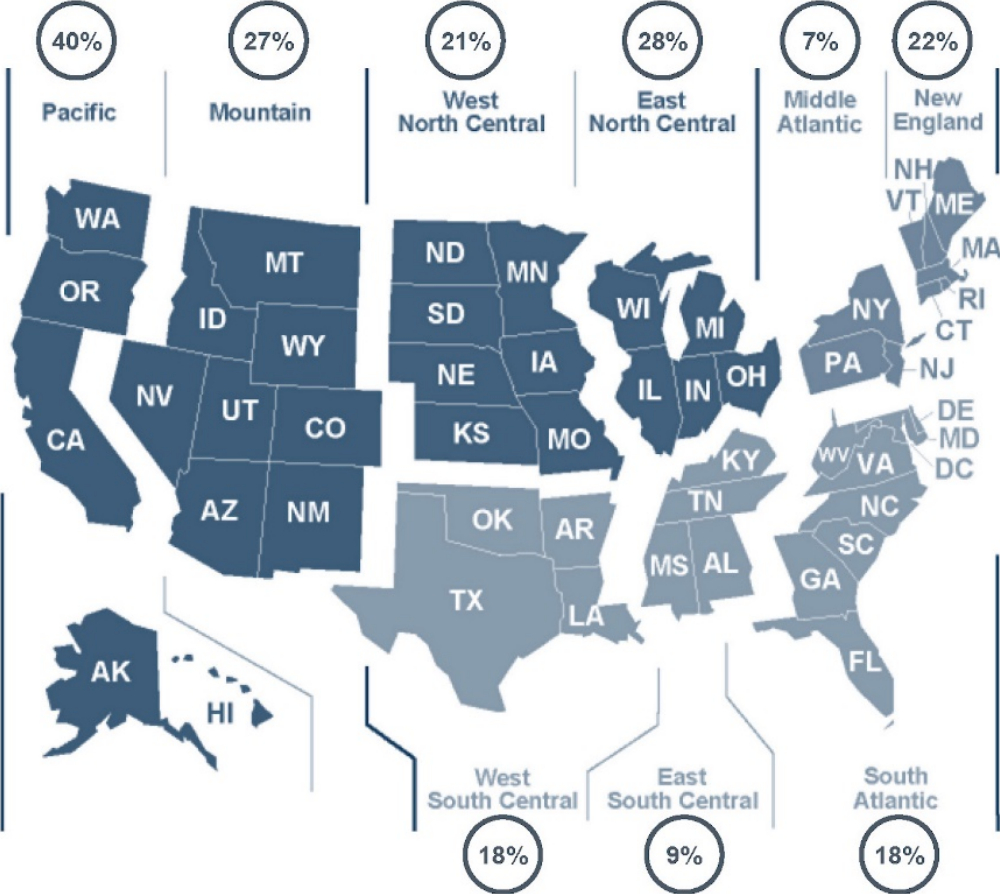
# Alternative Delivery Model – Design Build

## Risks:

- *Delay Claims / Issues*
- *Firm Fixed Price*
- *Omission / Betterment Defense*
- *Value Engineering Purgatory*
- *Quantity Growth*
- *Procurement Investments*
- *Can circumvent qualifications-based selections*



# Alternative Delivery Model – Design Build



## “Progressive” Design Build

- Rapid growth rate among public clients
- Most often associated with aviation, water / waster water and manufacturing sectors
- Rapid growth in private sectors

Source FMI



## Alternative Delivery Model – Design Build

### *“Progressive”* Design Build

- Procured through a qualifications process
- Phased approach mitigates risk of cost overruns
- Not as well used in current procurement processes

Source DBIA



## Areas of Focus

Alternative  
Delivery



Artificial  
Intelligence



Long-Term  
Relevance



# AI in Design

## Exploring alternatives

*Evolution Algorithm  
produces geometries  
that work for  
sustainable goals, or  
views or  
programmatic space*

Source Kory Bieg / OTA + Design



# AI in Design

## Exploring alternatives

*Catalogue the  
qualities of the  
spaces – including  
utilities*

Source Kory Bieg / OTA + Design



# AI in Design

## Exploring alternatives

*Maps the needs to  
final forms*

Source Kory Bieg / OTA + Design





**AI in Design**  
**Exploring fluid  
motions**

***Can AI learn to  
model materials  
against forces and  
engineer outcomes***

Source Kory Bieg / OTA + Design



# AI in Design

*Testing artistic  
expressions*

Source Kory Bieg / OTA + Design

# AI in Design

*Letting the  
“**behavior**” of the  
tool test the model  
against material  
properties*

Source Kory Bieg / OTA + Design



# AI in Design

*AI utilizes three different principles to function:*

- *Data Sets*
- *Models*
- *Interpolation*



Source Kory Bieg / OTA + Design



# AI in Design

***Text to AI  
instruction***

Source Kory Bieg / OTA + Design



Source Kory Bieg / OTA + Design

# 2022 Strategic Council Report



# AI in Design

*Letting the  
“**behavior**” of the  
tool test the model  
against material  
properties*

Source Kory Bieg / OTA + Design



# AI in Design

***Inform the prompt  
on influence and  
style – Zaha Hadid  
influence***

Source Kory Bieg / OTA + Design





# AI in Design

*Form driven  
prompts*

Source Kory Bieg / OTA + Design

## Recommendations / Questions

1. The education of architects must include a greater understanding of code and programming



Computer Science

Editors of Code

Understanding and  
implementation of history

## Recommendations / Questions

2. Should integrated design (architecture and engineering) be a single practice as AI grows?



AI Engineering within  
conceptual ideas – lead  
to automation

Compensation structures  
when AI is more active

Who owns the algorithms  
and data set prompts



## Areas of Focus

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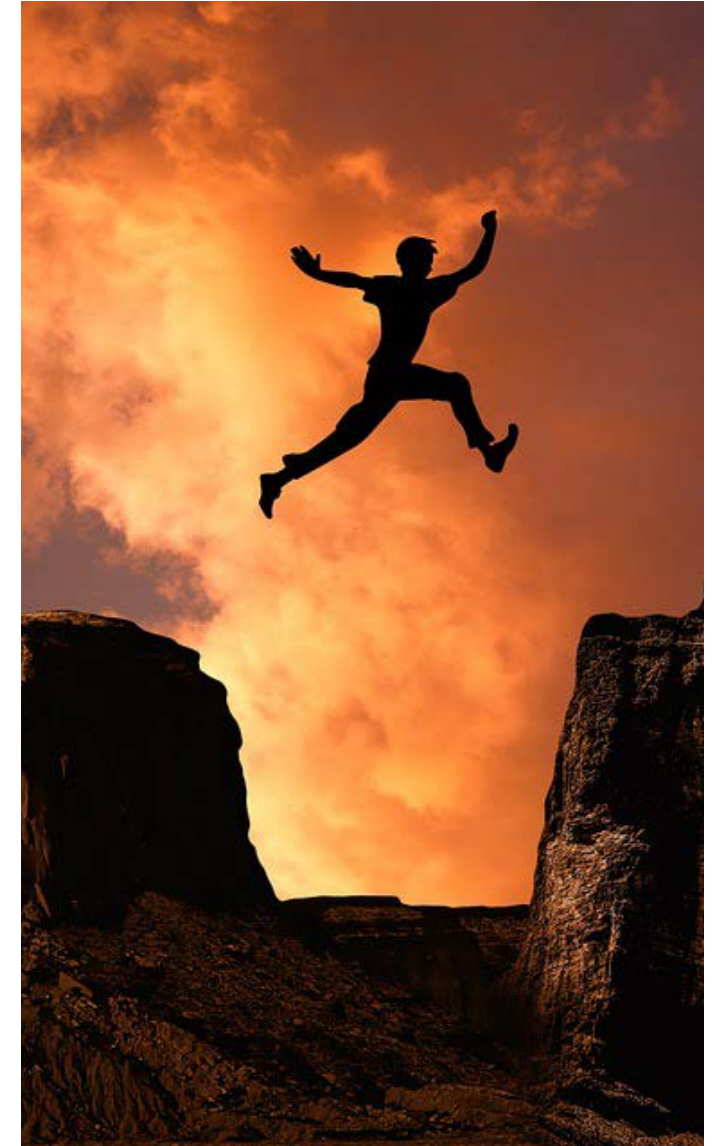


Long-Term  
Relevance



## Relevance

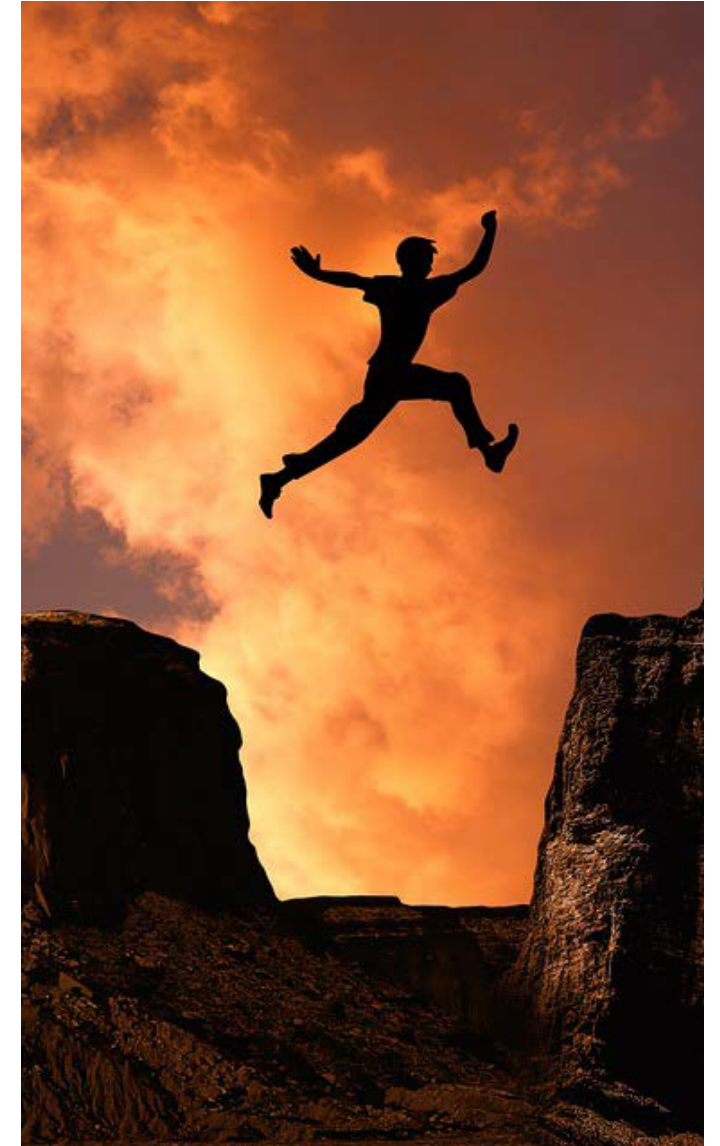
The profession is stuck in a fearful, reactive, risk-adverse posture, while other stakeholders in the built environment are leaping forward.



Source Design Intelligence

# Relevance

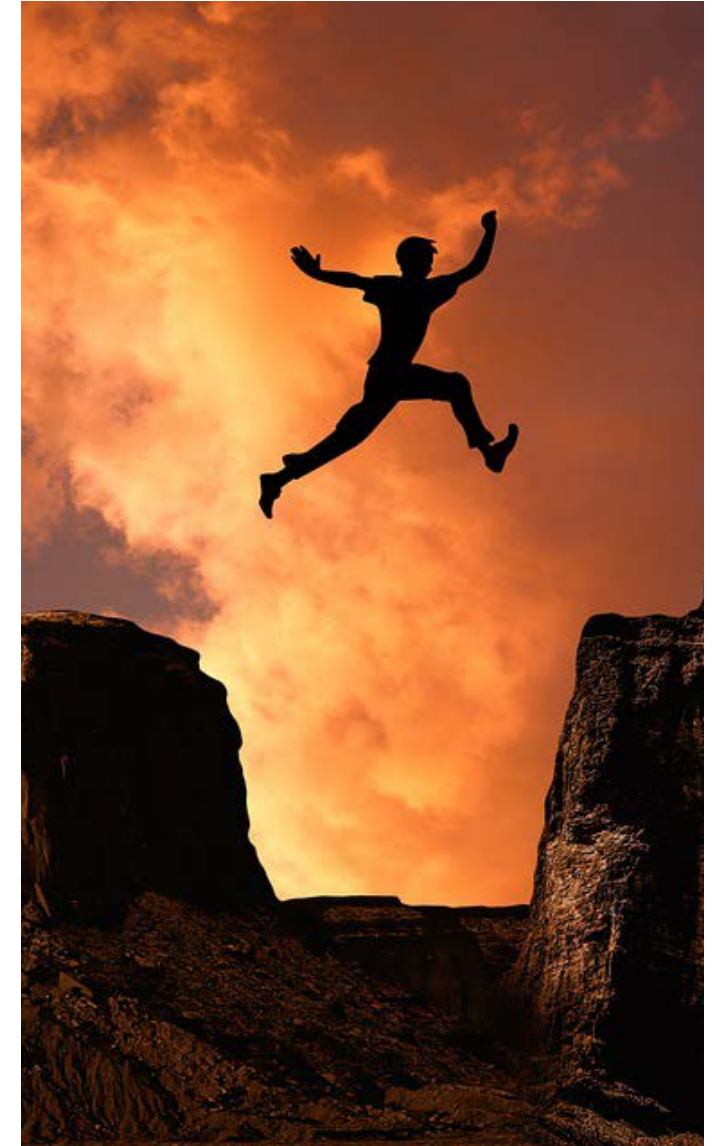
Architects need to expand their vision from designing a building to designing processes



Source Design Intelligence

# Relevance

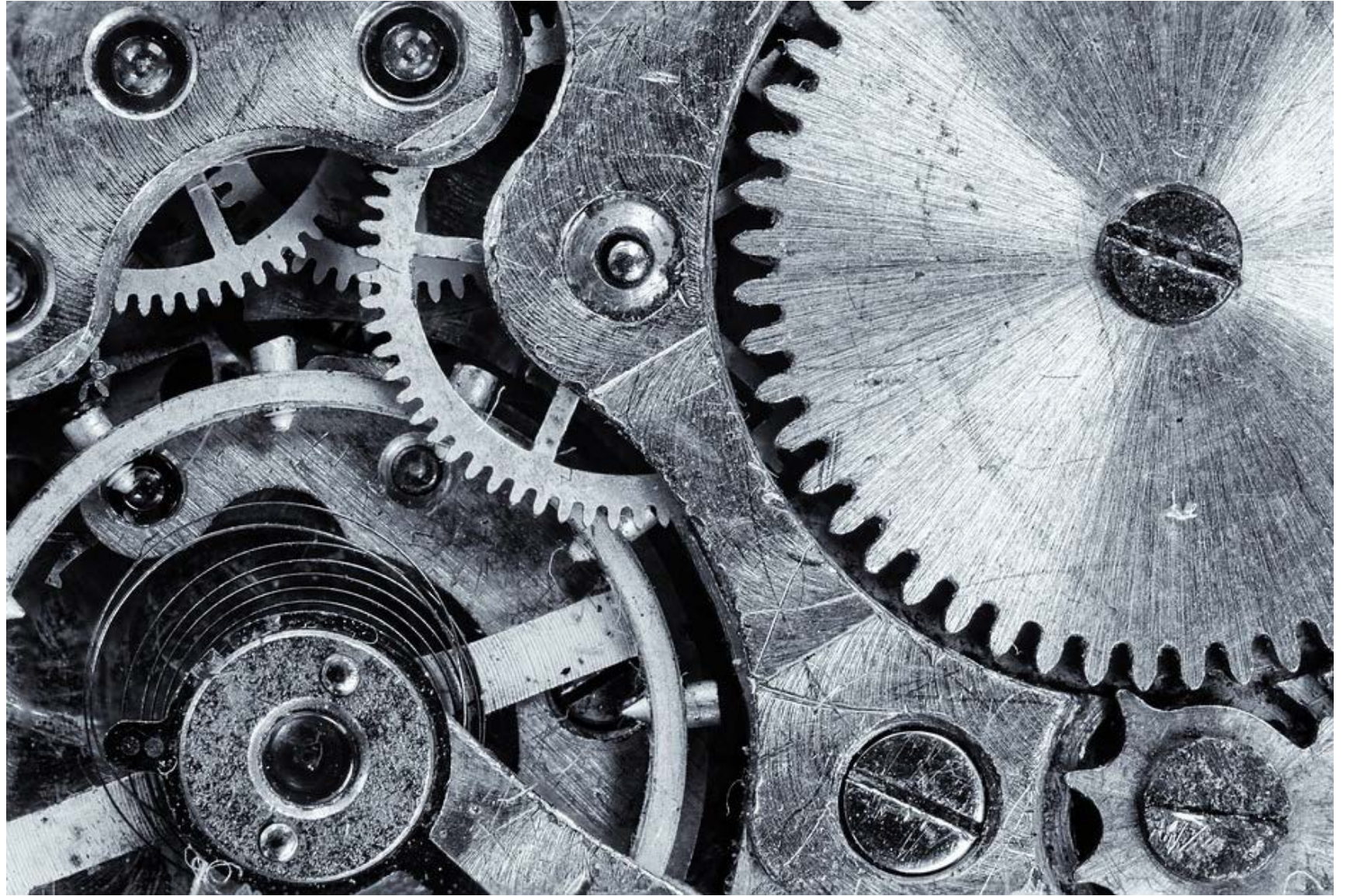
Architects need to leap forward optimizing technology



Source Design Intelligence

## Relevance

***AIA Contracts devote only 35% of the fees to where design thinking can make the most difference.***



Source Design Intelligence





# Relevance

***Architects must become polyglots – recapture the master builder knowledge.***



Source Design Intelligence



## Relevance

***Owning the lifecycle and data of the built environment can dramatically alter the practice and relevance of architects.***



Source Design Intelligence



***“Relevance is pertinent to the matters at hand. Relevance means to be observant of and actioning towards the matters at hand.”***

**- Dave Gilmore**

## Recommendations / Questions

1. The profession needs to look at the existing business model to move from a transactional situation to a true lifecycle relationship



Owning the building data

Leasing data to real estate companies

## Recommendations / Questions

2. The profession needs to explore controlling / owning the process of building and operations



Architecture ownership of construction

Ownership structures for royalties

Subscription to building data outputs



***“The measure of intelligence is the ability to change.”***  
**- Albert Einstein**

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